Courtney M. Williams

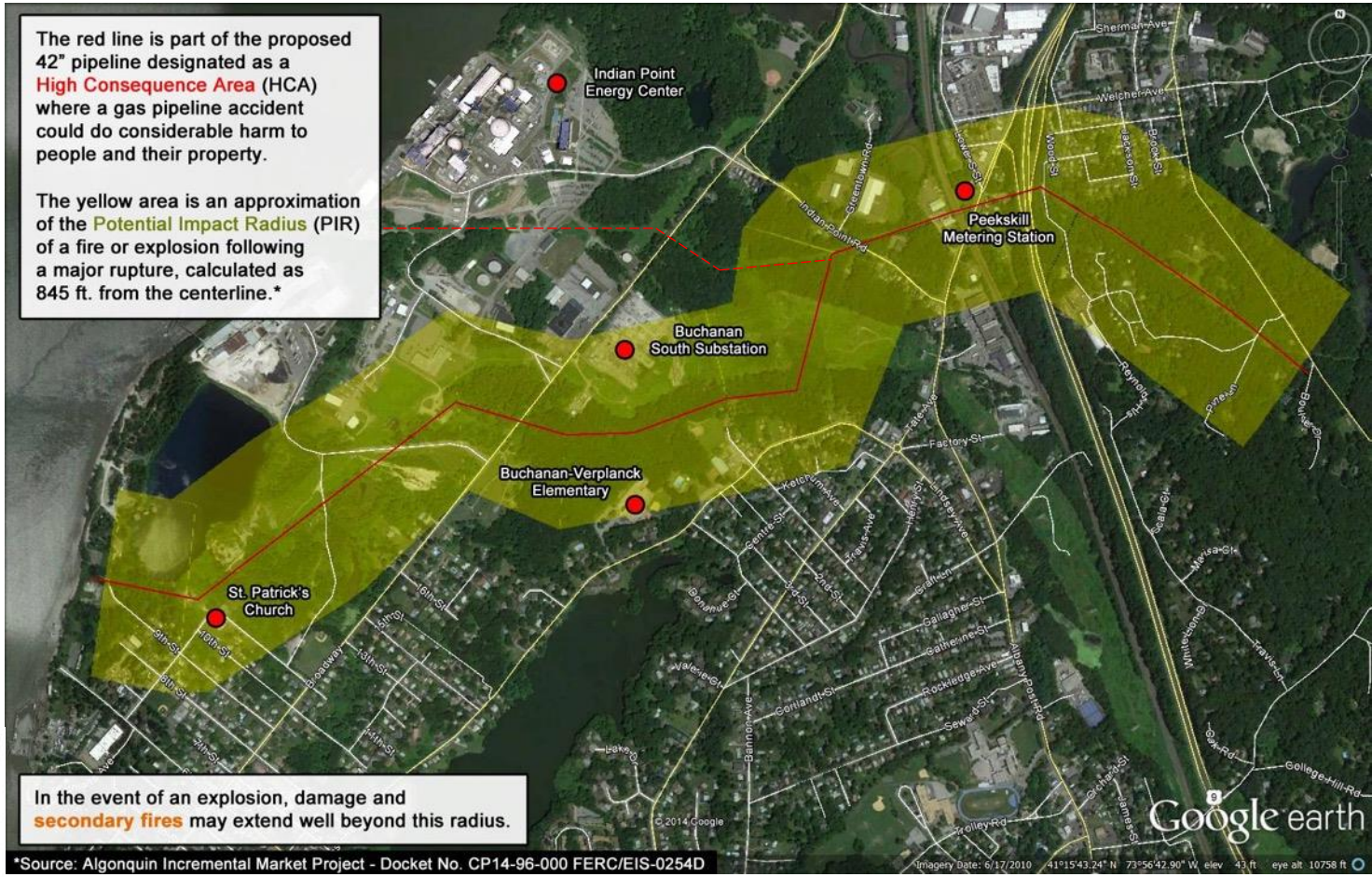
- Peekskill resident
- Parent of two HenHud students
- Member of City of Peekskill Conservation Advisory Council
- Cofounder of Safe Energy Rights Group
- Cofounder Westchester Alliance for Sustainable Solutions
- Participant in the Consultation on Climate and Universal Periodic Review for the UN High Commission for Human Rights

- Working on issues related to co-locating the “Algonquin” Pipeline with Indian Point since 2013

- BS in Molecular Biophysics and Biochemistry from Yale
- PhD in Molecular Biology from Princeton
- Post-doctoral training in Biological Engineering at MIT
- Cancer researcher

Expertise in researching cancer and the molecular mechanisms of disease to parse the emerging data on the health and environmental impacts of energy infrastructure and shale gas development

Background: The "Algonquin" Pipeline *System* runs multiple high-pressure gas pipelines across the Indian Point Nuclear Site

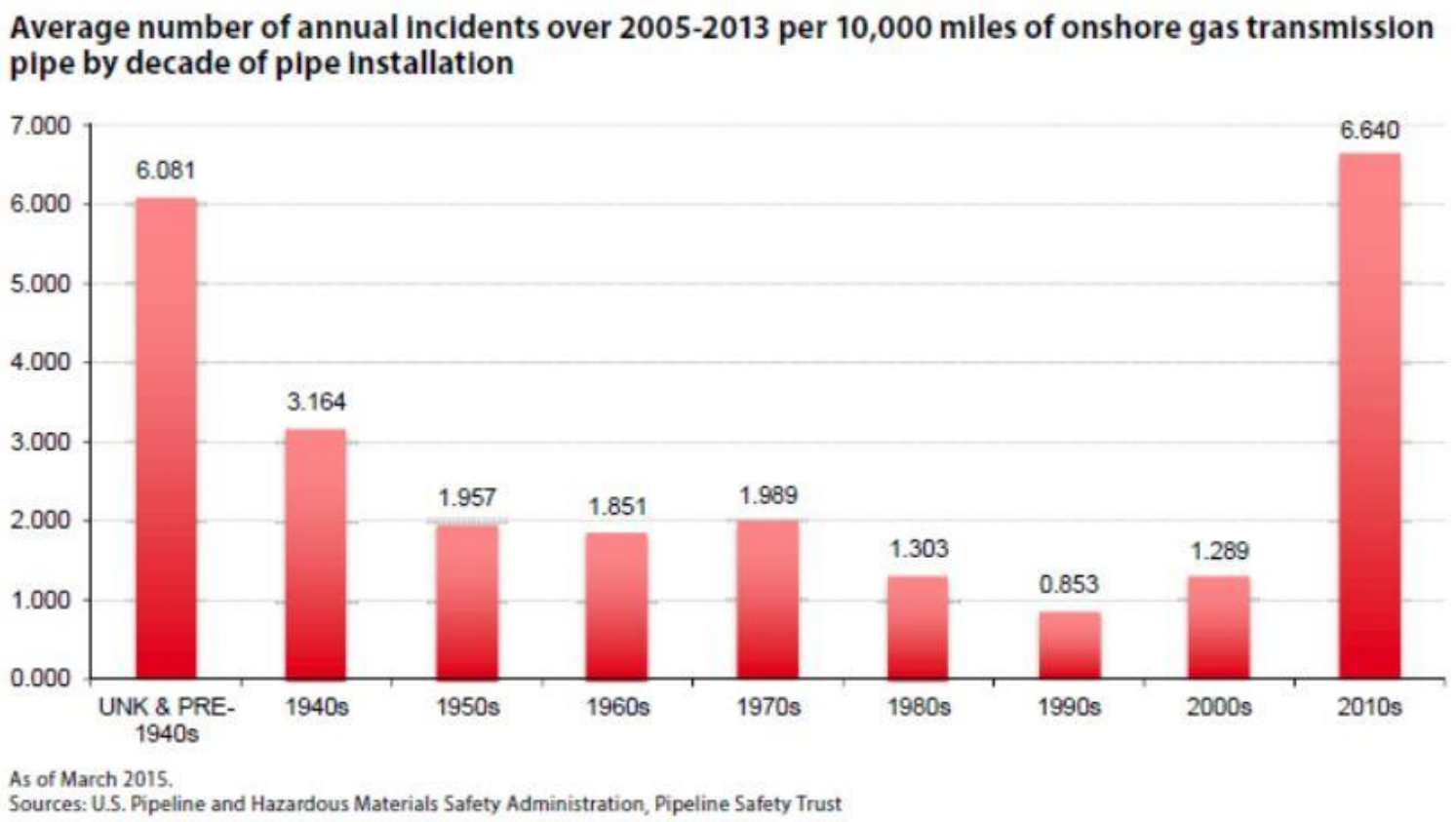


SSC ITS	Closest distance from enhanced gas pipeline	Closest distance non-enhanced gas pipeline
Switchyard	115 ft (35 m)	>1266 ft (386 m)
GT2/3 fuel tank	105 ft (32 m)	>1266 ft (386 m)
City water tank	1336 ft (407 m)	>1266 ft (386 m)
Meteorological tower	Not applicable	551 ft (168 m)
EOF	1002 ft (305 m)	>1266 ft (522 m)
SOCA	1580 ft (482 m)	>1580 ft (482 m)
Backup Meteorological tower	1844 ft (562 m)	>1266 ft (386 m)
SSC of Interest		
FLEX Building	1033 ft (315 m)	1162 ft (354 m)
Unit 2 SG Mausoleum	1440 ft (439 m)	>1266 ft (386 m)
Unit 3 SG Mausoleum	Not Applicable	477 ft (145 m)

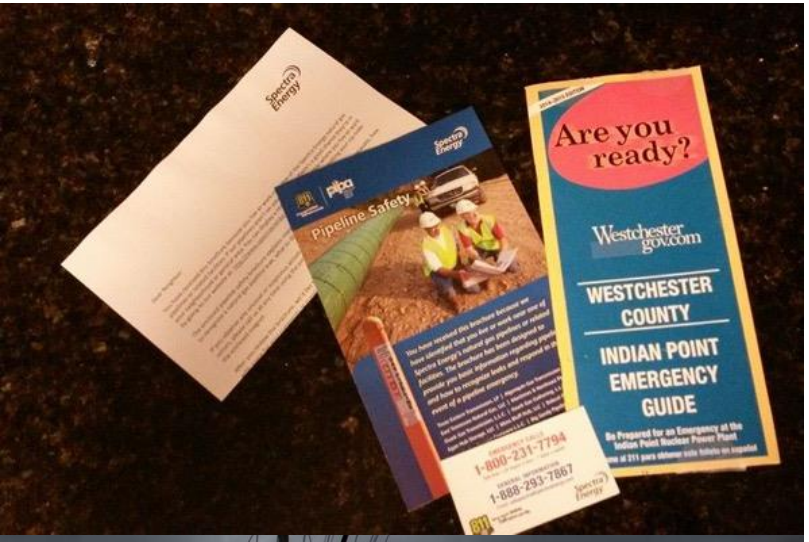
safety related structures, systems and components
important to safety
Security Owner Control Area
Emergency Operations Facility

Entergy Submission to FERC Aug 21, 2014

There has never been a Federally compliant risk assessment of pipelines at Indian Point



- PHMSA has failed to comply with federal safety regulations including 49 USC 60101 et seq, and 49 CFR 192.917, 935, 615, 616: The Secretary shall review a risk analysis and integrity management program under paragraph (1) and record the results of that review for use in the next review of an operator's program.
- **Will DPS acknowledge this failure and demand PHMSA produce a federally compliant risk analysis and integrity management plan?**



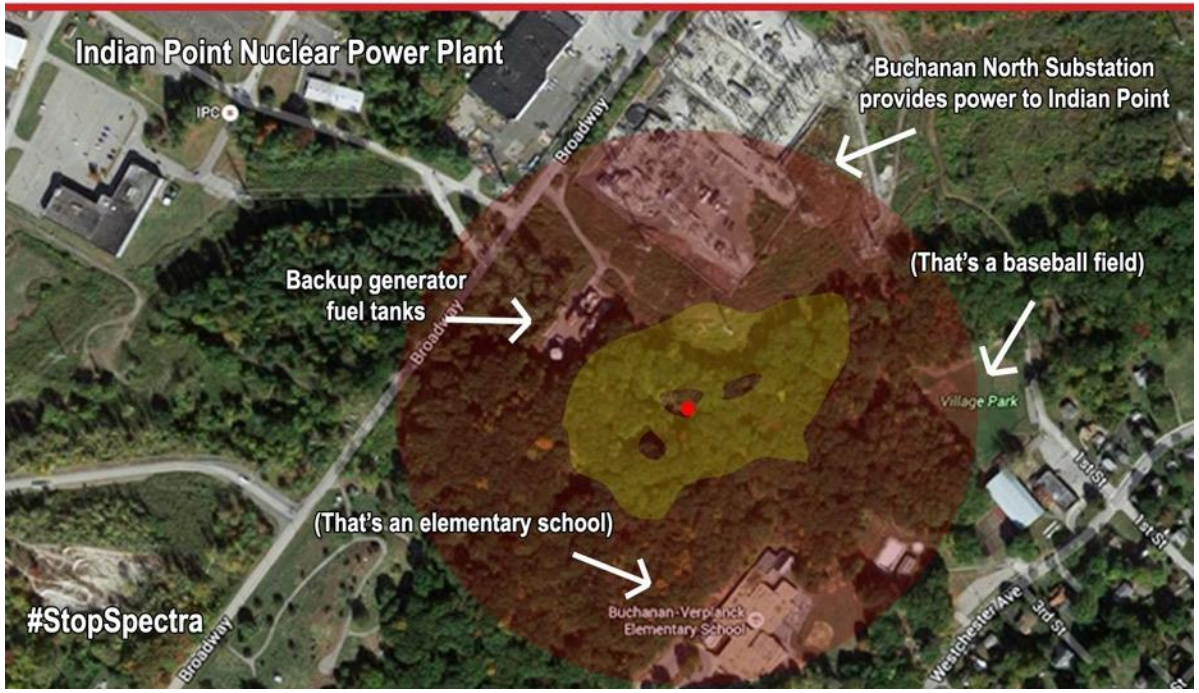
Emergency Planning does not account for colocation of pipelines and Indian Point

- Evacuation plan is unrealistic
- Guidance for IP incident and pipeline incident are contradictory
- Emergency planning at the Four County level with a scenario involving the pipelines and IP has never been done
- Holtec's recent survey was designed to exclude those most likely to need help evacuating
  - QR code
  - Requires computer
  - Only in English

- **What will this DOB do to ensure that ALL area residents are included in planning?**
- **Will emergency planning, preparedness continue as long as 40 years of irradiated spent fuel are stored within the blast radius of the pipelines?**
- **Have any local first responders been trained jointly by Holtec and Enbridge for emergencies involving the pipeline at IP?**
- **Will DOB ask Peter Loughran, Four County Coordinator, to hold drill related to pipeline incident at IP including Enbridge and Holtec?**

Spectra/Enbridge Safety Record

The same size explosion on the AIM pipeline would look like this:



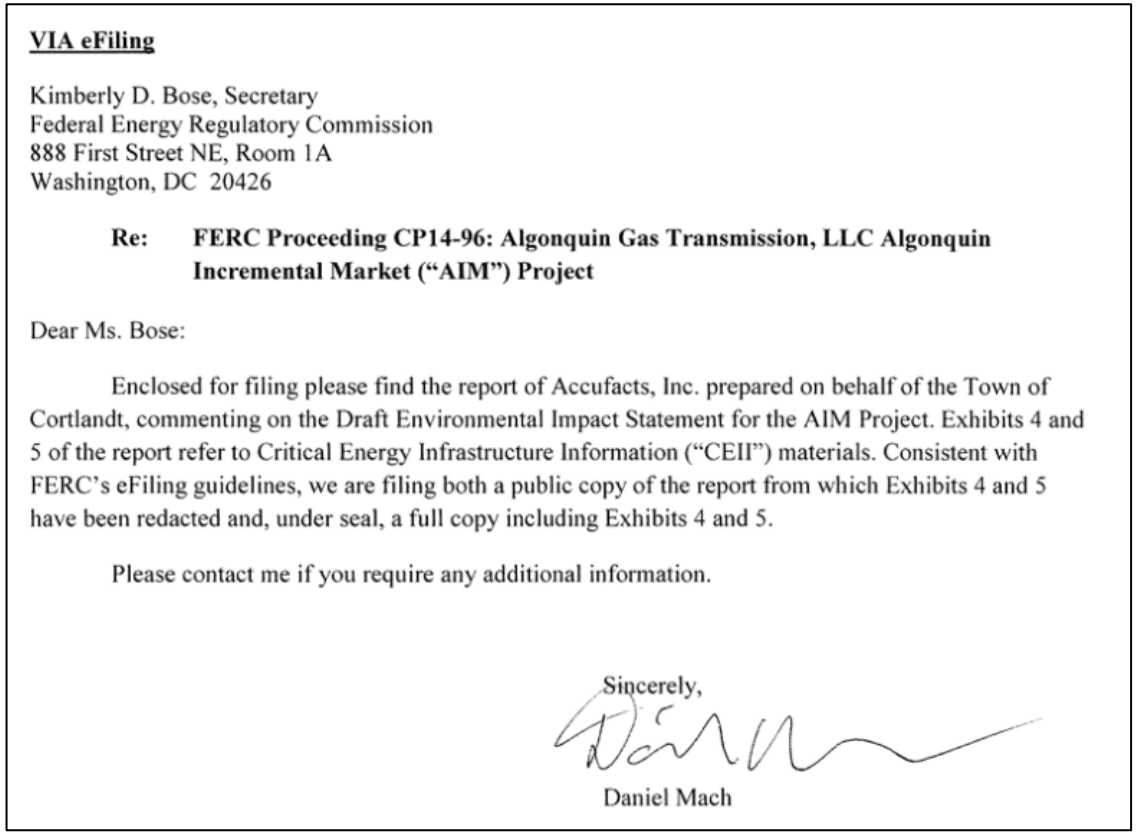
Source: Arkansas Times, 2015

Basic System Review and Review of FERC filing commissioned by Town of Cortlandt

The Safety Evaluation and Analysis for the Indian Point Nuclear Plant ("IPEC") submitted by Entergy concerning the risk associated with the 42-inch AIM pipeline is ***seriously deficient and inadequate****.*

--Accufacts, Inc, Nov 11, 2014

- **Has DPS reviewed this assessment?**
- **Does DPS agree with the conclusion that the safety evaluation and analysis is 'seriously deficient and inadequate?'**
- **If yes, then what is DPS doing to rectify this?**
- **If no, why not?**



VIA eFiling

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Re: FERC Proceeding CP14-96: Algonquin Gas Transmission, LLC Algonquin Incremental Market ("AIM") Project

Dear Ms. Bose:

Enclosed for filing please find the report of Accufacts, Inc. prepared on behalf of the Town of Cortlandt, commenting on the Draft Environmental Impact Statement for the AIM Project. Exhibits 4 and 5 of the report refer to Critical Energy Infrastructure Information ("CEII") materials. Consistent with FERC's eFiling guidelines, we are filing both a public copy of the report from which Exhibits 4 and 5 have been redacted and, under seal, a full copy including Exhibits 4 and 5.

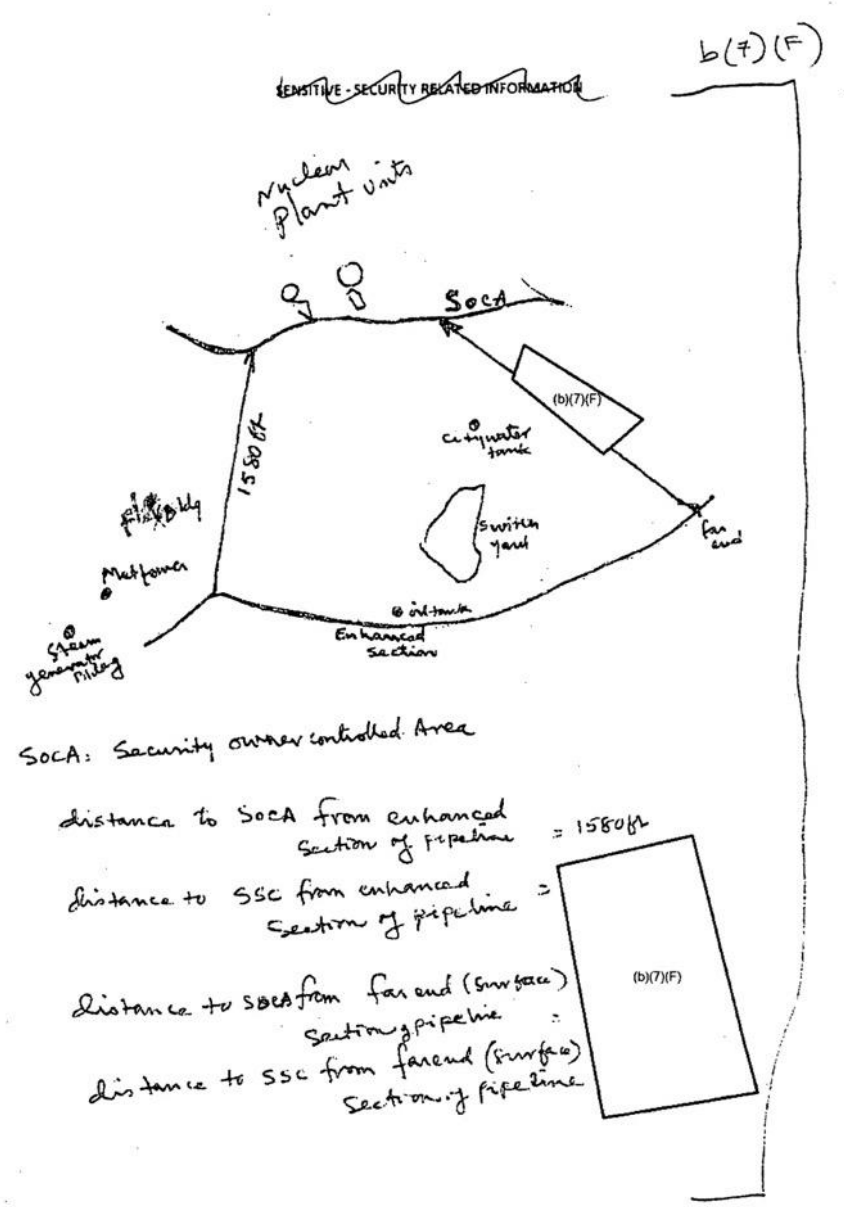
Please contact me if you require any additional information.

Sincerely,

Daniel Mach

Entergy's risk assessment

- Entergy conducted its own risk assessment
- "3 minute shutdown" based on unfounded assertion by Spectra/Enbridge
  - Later proven by DPS to be impossible during control room audit
- FERC and NRC accepted this risk assessment
- Local community, elected officials at all levels of government, local scientific and environmental community pointed out obvious flaws
- Pipeline was approved



Entergy submission to FERC, Source: FOIA

Excerpt from Mr. Rick Kuprewicz's statement in the official transcript of the NRC Petition Review Board hearing July 15, 2015

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: 10 CFR 2.206 Petition Review Board
RE Indian Point Nuclear Generating Unit 2

Docket Number: 05000247

Location: Teleconference

Date: Wednesday, July 15, 2015

- **If the base assumption of safety analysis is wrong, why is DPS not calling for action to shut down the pipeline pending compliance with 3-minute shut down?**

Mr. Kuprewicz is a national pipeline forensic expert and the President of Accufacts.

"**Assumptions about closure within three minutes to cut off gas flow near the plant are unrealistic and unscientific**. **A further recent analysis concluded that a rupture release of one hour on the 42-inch pipeline does not impact the nuke plant needs further explanations, as it makes no sense for this system**. The above key assumptions, as stated in agency studies, ignore proximity to a compressor station upstream and ignore system dynamics associated with a gas transmission pipeline rupture that increases gas releases well above pipeline flow before the rupture. Quite simply, **agency studies are violating the basic laws of science concerning gas pipeline rupture and associated forces that result in massive cratering, pipe shrapneling, and violate the science associated with such releases, especially a 42-inch pipeline.... It appears that various agencies are attempting to dismiss risk as low when gas pipeline rupture may drive the nuke facility to non-safe shutdown in a highly sensitive area**. Agency studies create the appearance of risk management tampering to favor a project agency decision and raise the question, Are involved agencies capable of performing a scientifically neutral study for such a sensitive issue?....Lastly I must comment that a truly independent safety analysis should be performed, subject to a reasonable open peer review. **Security claims should not be permitted to shelter malfeasance in a scientific method involving incomplete risk analysis for such a highly sensitive infrastructure**."

Homeland Security and Emergency Services | Department of Public Service | Department of Environmental Conservation | Department of Health

For Immediate Release: 06/22/18

Contact:
James Denn | James.Denn@dps.ny.gov | (518) 474-7080
http://www.dps.ny.gov
http://twitter.com/NYSDPS

18045/17-00994

Algonquin Gas Pipeline Safety Study Issued

— State Agencies Demand FERC Reduce Risks of Pipelines Near Indian Point; Call on FERC to Ban Additional Natural Gas Capacity on the Algonquin Pipelines —

results of a recently completed, independent risk analysis addressing a portion of the Algonquin natural gas pipelines located near the Indian Point nuclear facility in Westchester County. In their letter, the Agencies urge FERC — the federal agency with siting regulatory authority over interstate gas pipelines — to take additional action to minimize risks and protect public safety.

"Our consultant's assessment informs logical next steps that must be taken by FERC to reduce the risk profile of Algonquin's natural gas pipelines in the vicinity of Indian Point, and has identified areas that require further review," **said the Agencies**. "While the probability of pipeline incidents is low, the proximity to the Indian Point nuclear plant makes the potential consequences of such an event very significant. Additional scrutiny and monitoring to better understand and reduce risks associated with the Algonquin pipelines is warranted. FERC must engage in further action to mitigate and investigate potential risks."

- **Have all "areas that require further review" been reviewed? What is the outcome?**
- **Given that NYS proved Enbridge can't shut off valves in 3min, what action was taken?**
- **What new information has NYS no longer call for ceasing gas operations during decommissioning?**
- **Does DPS acknowledge that FERC no longer has jurisdiction, it is DPS and PHMSA that are responsible for monitoring compliance?**

The Agencies also called on FERC to re-evaluate whether the NRC and Entergy analyses relied on by FERC during the review of the AIM project were sufficient. The NRC and Entergy analyses concluded that the Indian Point reactors could safely shut down if there were a pipeline incident, but they may not have fully considered all necessary and appropriate factors, including for example the different design characteristics of the buildings housing the spent nuclear fuel cooling pools.

- FERC should require regular testing of Enbridge's ability to remotely close valves on the 42-inch, 30-inch, and 26-inch pipelines in the vicinity of Indian Point within three minutes of an event. This valve closure time was noted by FERC when it approved the AIM pipeline, but it must be regularly confirmed for all three pipeline segments, the original Algonquin pipelines and the AIM pipeline.

- FERC must work with NRC to coordinate a review of Indian Point-owner Entergy Corp.'s decommissioning plan when filed to determine potential impacts to the original Algonquin pipelines and the AIM pipeline. Given the heavy excavator work that will be part of decommissioning, FERC may need to require Enbridge to temporarily cease gas operations during the decommissioning activities that may threaten the pipeline integrity.

CC: FERC, NRC, PHMSA

FERC's response:
"Based on these analysis FERC found that the AIM project will not result in increased safety impacts at the Indian Point Facility."--FERC Chairman McIntyre

"The NRC is satisfied with safety of the plant." Mike Twomey VP External Affairs for Entergy

Examiner News 9/26/18

Statement from Dr. Irwin Redlener, Former Director, National Center for Disaster Preparedness, Earth Institute at Columbia University

As of June 2020, Dr Redlener is Director, Pandemic Resource and Response Initiative (PRRI) and Senior Research Scholar at the National Center for Disaster Preparedness at Earth Institute, Columbia University

"With the release of their risk analysis and letter to the Federal Energy Regulatory Commission calling for urgent action, New York State agencies confirmed the catastrophic risks posed to millions of lives by the co-location of the high-pressure pipelines at the aging Indian Point nuclear plant. **We strongly agree that close proximity of the pipelines to critical safety infrastructure and to highly radioactive nuclear fuel stored on site is a persistent and significant threat.** This is particularly alarming as we have seen an increase in pipeline failure rates, especially in newly constructed pipelines. **To make matters worse, decommissioning and decontamination work anticipated with the closure of the plant…will certainly involve heavy excavation, which may well further jeopardize pipeline integrity.** From a public health point of view, the flow of gas at Indian Point presents an enormous risk to communities and families throughout the region. **Shutting down this gas flow should happen immediately in order to avert the possibility of a catastrophic explosion that would have widespread, deadly consequences in our region.**"

NRC Office of the Inspector General's Investigation: NRC Conducted a Faulty Analysis

- "OIG learned from Enbridge that it would, in fact, take the pipeline operators a minimum of **6 minutes** after a leak is detected to manually close the isolation valves and thereby stop the flow of gas into the ruptured portion, and **not 3 minutes as NRC claimed** to have calculated using ALOHA. Enbridge also told OIG that if there were an explosion near IPEC, operators would shut valves that were approximately **14 miles apart rather than 3 miles** apart as NRC assumed in its analysis."

- "NRC's underlying independent analysis was conducted using a computer program [ALOHA] that the NOAA, which developed the program, said it was **not designed for**."

- "[NRC analysis] appeared to be **backwards engineering** to get a desired result."

- "NRC's independent analysis was **incorrectly portrayed** in FERC's approval document as significantly more conservative than it actually was."

- "NRC's inspection **report contained inaccuracies** suggesting additional analysis had been conducted, when this was not the case."

Report of the U.S. Nuclear Regulatory Commission
Expert Evaluation Team on Concerns Pertaining to
Gas Transmission Lines Near the Indian Point Nuclear Power Plant

April 8, 2020

Feds Lied About Pipeline Near NY Power Plant: Inspector General

Officials are demanding a briefing from the Nuclear Regulatory Commission about a report that found false statements and flawed science.

Lanning Taliaferro, Patch Staff

NRC thinks the pipeline, dry cask storage, or transportation of waste are 'outside the scope of the PSDAR'

Public comments or questions that, upon review, were found to be outside of the NRC's regulatory purview or outside the scope of the NRC staff's review of a PSDAR, as defined in 10 CFR 50.82(a)(4)(i), are summarized below.

- Questions or comments about NRC oversight while a plant is decommissioning.
- Questions or comments about the Algonquin Pipeline System near IPEC during decommissioning activities.
- Questions or comments about whether the current dry cask storage canisters can be monitored, inspected, or repaired.
- Questions or comments about the transportation of nuclear waste

From NRC response to public meetings on the Post-Shutdown Decommissioning Activities Report, May 2022
https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML22082A220

- **Does DPS and DOB participating agencies acknowledge that the NRC is not adequately overseeing decommissioning?**
- **How is the DOB ensuring that critical safety issues don't fall through the cracks because no agency will accept responsibility or coordinate oversight?**

Sandia National Labs analysis contracted by NRC found possibility of gas release engulfing Indian Point Nuclear Site

Sandia National Laboratories

Operated for the United States Department of Energy
by National Technology and Engineering
Solutions of Sandia, LLC.

P.O. Box 5800
Albuquerque, NM 87185-0101

Anay Luketa
Principal Member of Technical Staff

Phone: (505) 284-8280
Fax: (505) 284-8920
Email: aluketa@sandia.gov

March 31, 2020

To: Suzanne Dennis
U.S. Nuclear Regulatory Commission

Subject: ***Review of NRC confirmatory analysis regarding fire and explosion for Algonquin gas transmission line at Indian Point nuclear power plant***

- **Does the DOB acknowledge that Sandia National Labs found that a pipeline leak could result in a vapor cloud encompassing the entirety of the security owner-controlled area (SOCA) with in 8min?**
- **Can you tell us now that the ignition of this vapor cloud would have no impact on operation at IP? If so, what evidence is that based upon?**

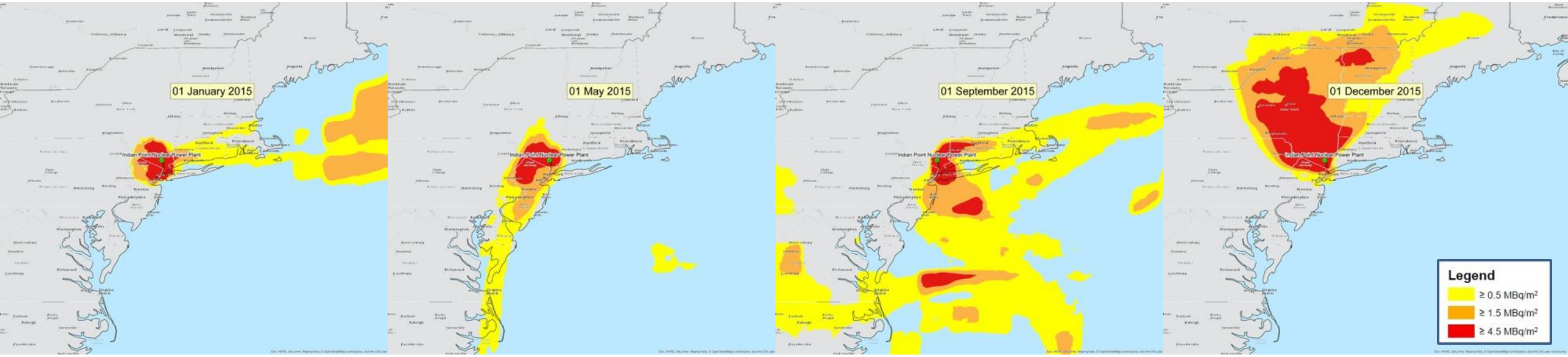
The major findings from the preliminary SNL analysis are:

- *The vapor cloud will be heavier than air which will cause it to disperse near the ground and will persist after the pipe has been closed.*

- *The dense-gas vapor cloud will propagate through the vegetation and congested areas which **increases the likelihood of a deflagration to detonation transition**.*

- *Simulation results indicate that at approximately 6 to 7 minutes after release the flammability region of the vapor cloud will be either near or begin to engulf the SOCA and **at 8 minutes the flammability region would surround the SOCA**. Thus, if the cloud is ignited within the flammability region, the explosion would have a high likelihood of exceeding an overpressure of 1 psi at the SOCA.*

Princeton University Program for Science and Global Security:
NRC underestimates potential for nuclear disaster



Month (release beginning on first day of month, 2015)	Area Interdicted (km2 contaminated above 1.5 MBq/m2)	Population in area
January	7500	830000
February	61000	8200000
March	60000	9600000
April	25000	9400000
May	23000	15400000
June	109000	29000000
July	73000	13800000
August	12000	5700000
September	23000	16500000
October	175000	34900000
November	38000	5000000
December	129000	8400000
Average	61292	13060833

Source, Personal Communication:
Frank von Hippel*, Michael Schoeppner*, and Edwin Lyman**

*Program for Science and Global Security, Princeton University
**Union of Concerned Scientists

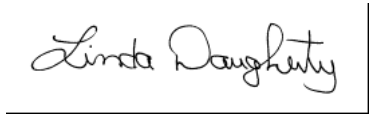
Peer Reviewed Analysis "Nuclear safety regulation in the post-Fukushima era," was published May 26, 2017 in Science

Lay article: "***Spent fuel fire on US soil could dwarf impacts of Fukushima: New study warns of millions relocated and trillion-dollar consequences***"– Science May 24, 2016

PHMSA is refusing to issue Corrective Action Order, Sept 2021

As mentioned during the September 30th public meeting in Cortlandt, PHMSA has initiated an effort with the **Oak Ridge National Laboratory (ORNL)** to perform a new, independent study to evaluate the potential safety impact on the IPEC if an Algonquin pipeline fails. PHMSA will determine what, if any, actions it can and should take based upon that study. Regarding the information you shared, we have shared them with the individuals performing the independent analysis on the pipeline—to ensure that all technical information is included for consideration. **With respect to enforcement actions, PHMSA, in consultation with our interstate agents, in this case NY DPS, considers evidence in light of legal thresholds established by Congress as interpreted by courts—and will certainly do so here as well.**

Authorization for construction and operation of the AGT pipeline facilities was granted by the Federal Energy Regulatory Commission. PHMSA, along with our state pipeline safety program partners, to include the NY DPS, exercise oversight to ensure that pipeline operators are complying with the Federal Pipeline Safety Regulations and any identified non-compliances and unsafe conditions are addressed through a variety of enforcement tools. **To date, pipeline safety inspectors have not identified any items of non-compliance related to the AGT facilities near the IPEC that would warrant PHMSA to take enforcement action.**



Linda Daugherty
Deputy Associate Administrator for Field Operations

- **How is failure to meet 3min shutdown of the pipeline NOT an item of non-compliance?**
- **What is the status of ORNL study?**
- **Why is decommissioning allowed to proceed and gas flow in light of the many regulatory failures?**
- **Is Holtec being held to the same standards of ‘know before you dig’ as residents and other businesses?**

Key Points Summary

- PHMSA has failed to comply with federal safety regulations and review a risk assessment that meets the Federal standards prior to allowing gas to flow through the “Algonquin” Pipeline System

- Town of Cortlandt (2014), New York State (2018), and the NRC OIG (2020) have all identified egregious flaws in safety analysis conducted
  - Sandia National Labs found vapor cloud could engulf entire Indian Point Site, including spent fuel storage

- Colocation of Indian Point and the “Algonquin” Pipeline System is unique in the nation

- Decommissioning activities present new risks to the pipeline, spent fuel fire is ongoing risk

- Not mentioned in this presentation: risks from terrorism, geological concerns, and flooding; spent fuel storage; lack of emergency planning; whistleblowers
  - The cyber attack against the Colonial Pipeline has shown control over pipelines cannot be assured. (see Security Agency Alerts from Cybersecurity and Infrastructure Security Agency, guidance form CISA and NSA)

- 26” pipeline currently being replaced at Indian Point Nuclear Site, concurrent with decommissioning activities

- **We must ensure that the unprecedent scope of concerns at Indian Point do not continue to fall through the jurisdictional cracks that exist between PHMSA, NRC, FERC, NYS, etc.**

- **PHMSA must issue a Corrective Action Order to shut down the flow of gas in the “Algonquin” Gas Pipeline System co-located at Indian Point Nuclear Site until they can produce mandated risk assessment proving safety**

Topics for future DOB Meetings

- Dumping of spent fuel pools in Hudson River
- Hardened On Site Storage of waste
- TSA presentation on cyber-security
- Risk Assessment Findings (Accufacts, NYS, Sandia, ORNL)
- Enbridge presentation
    - safety measures (concrete bridging slab, shut off valves)
    - increased capacity on the “Algonquin” Pipeline (24” auxiliary pipeline)
    - Notification of venting

School Safety

- Robust, real-time monitoring of schools (including dust)
- Adequate funding
- Correcting confusion over timeline created at March meeting

Holtec employees Awareness of Pipeline

- Identification of pipeline rupture
- Enbridge control room contact info available and known
- *Holtec maintains that we have the capability to use fire hoses to help local fire departments combat a pipeline fire as stated… Along with the local fire departments, the Enbridge contact information is readily available in each control room- from Q&A from March DOB*
- Pipeline fires are not fought with hoses
- Holtec is unaware of the nature of pipeline ruptures

Lack of trust in Holtec

- Small Modular Reactor plans
- Safety record at Oyster Creek
- Treatment of Union workers at Oyster Creek
- Recent Washington Post exposé

Public Input

- Lack of back and forth on public comments
    - Written responses, provided months later, is not the same as Q&A in real-time
- Accessibility of meetings
    - WebEx interface
    - Closed captioning
    - Interpretation (ASL, Spanish)
    - Cameras on
- Discussion of public comments on the docket
    - Summary of input there
    - Public response to concerns raised
- Inadequate public outreach about meetings and solicitation of comments

Lack of Federally Compliant Risk Assessment for pipelines at IP

- Will DPS acknowledge this failure and demand PHMSA produce a federally compliant risk analysis and integrity management plan? If so, what action will be taken? If not, why?

Accufacts Assessment for Town of Cortlandt

- Has DPS reviewed the Accufacts assessment?
- Does DPS agree with the conclusion that the safety evaluation and analysis is 'seriously deficient and inadequate?'
- If yes, then what is DPS doing to rectify this? If no, why not?

NYS Risk Assessment

- Have all "areas that require further review" been reviewed? What is the outcome?
- Given that NYS proved Enbridge can't shut off valves in 3min, what action was taken?
- What new information has NYS no longer call for ceasing gas operations during decommissioning?
- Does DPS acknowledge that FERC no longer has jurisdiction, it is DPS and PHMSA that are responsible for monitoring compliance?

Sandia Labs Assessment

- Can the DOB acknowledge right now that Sandia National Labs found that a pipeline leak could result in a vapor cloud encompassing the entirety of the security owner-controlled area (SOCA) with in 8min?
- Can you tell us now that the ignition of this vapor cloud would have no impact on operation at IP? If so, what evidence is that based upon?

Yet another risk assessment, this time from Oak Ridge National Labs

- What is the status of ORNL study?
- Why is decommissioning allowed to proceed and gas flow in light of the many regulatory failures and pending ORNL study?
- How does Enbridge's ongoing pipeline work alter this newest risk assessment?

3 minute shut down

- If the base assumption of safety analysis is wrong, why is DPS not calling for action to shut down the pipeline pending compliance with 3-minute shut down?
- How is failure to meet 3min shutdown of the pipeline NOT an item of non-compliance?

Emergency Preparedness

- What will this DOB do to ensure that ALL area residents are included in planning?
- Will emergency planning, preparedness continue as long as irradiated spent fuel is stored within the blast radius of the pipelines?
- Have any local first responders been trained jointly by Holtec and Enbridge for emergencies involving the pipeline at IP? Has DOB spoken to first responders about their training?
- Will DOB ask Peter Loughran, Four County Coordinator, to hold drill related to pipeline incident at IP including Enbridge and Holtec?

Alphabet Soup Hinders Effective Oversight

- Does DPS and DOB participating agencies acknowledge that the NRC is not adequately overseeing decommissioning?
- How is the DOB ensuring that critical safety issues don't fall through the cracks because no agency will accept responsibility or coordinate oversight?

Timeline of Events

SAPE holds first info session **Dec 2013**
FERC Public Hearing on AIM **Sept 2014**
Town of Cortlandt releases Accufacts risk assessment **Nov 2014**
Atlantic Bridge prefiled with FERC **Feb 2015**
AIM Approved **March 2015**
Request for Rehearing filed **April 2015**
Atlantic Bridge filed with FERC **Oct 2015**
Access Northeast prefiled with FERC **Nov 2015**
Request for Rehearing denied by FERC **Jan 2016**
Governor Cuomo demands halt to construction **Feb 2016**
SAPE, Asm. Galef met with Karen Gentile of PHMSA **April 2016**
NY Senators demand halt to construction **May 2016**
Riverkeeper and others file brief to challenge FERC approval **Aug 2016**
Riverkeeper and others file for stay to halt construction **Sept 2016**
AIM Pipeline goes in service **Nov 2016**
Cuomo announces Indian Point Closure **Jan 2017**
NY Issues Risk Assessment **June 2018**
US Court of Appeals, DC rules in favor of FERC **July 2018**
Holtec issues PSDAR with no mention of gas pipelines **Dec 2019**
NRC OIG Report verifies flaws identified in 2014 **April 2020**
NYS AG files suit against NRC over IP decommissioning plan **Jan 2021**
Enbridge replaces 26” pipeline at Indian Point **Fall 2021**
Enbridge connects 24” auxiliary pipeline to 26” pipeline **Spring 2022**